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09/850,172	05/07/2001	Susan T. Dumais	MS167386.1	1240

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EXAMINER

HIRL, JOSEPH P

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 10/02/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/850,172

Applicant(s)

DUMAIS ET AL.

Examiner

Joseph P. Hirl

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-29 are pending in this application.
2. The claims and only the claims form the metes and bounds of the invention.  
"Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. *In re Prater*, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP page 2100-8, col 2 lines 45-48; page 2100-9, col 1, lines 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

### ***Claim Objections***

3. Claim 10, lines 6-7 cause dependency to take place internally to the claim, causing dependency upon itself. Similarly Claim 23, line 5, exhibit the same dependency. This objection must be corrected.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5, 9, 11, 16-19, 20 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The terms "classic", "classical" (Claims 5, 9, 11, 16-19 and 22), "treats" (Claim 11) and, "potentially" and "useful" (Claim 20) are relative terms that render the subject claims indefinite.

#### ***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 29 is rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. The only way this Claim can be exercised is if the classification is known in advance and if that were the case, there is no need for classification. Hence, this claim provides no utility. See comments below at Claim 29.

#### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claims 1-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Gjerdingen et al (US Patent 6,539,395, referred to as **Gjerdingen**).

**Claims 1, 24**

Gjerdingen anticipates a computer system component that applies probabilistic dependency models, one for each of a plurality of categories, to an item to provide with respect to each of the plurality of categories an indication of whether the item belongs (**Gjerdingen**, Fig. 1; col 17, lines 35-50; Examiner's Note: (EN): decision trees are probabilistic dependency models; to one of ordinary skill in the art, the composite or meta tree of Gjerdingen is in fact the combined representation of "one for each of a plurality of categories"); wherein the probabilistic dependency models collectively employ outputs from a plurality of classifiers (**Gjerdingen**, col 17, lines 35-50); and the outputs employed by the probabilistic dependency models vary among the probabilistic dependency models (**Gjerdingen**, col 17, lines 35-50; EN: the singular sections of Gjerdingen's tree terminate in a classification which will vary from that of other singular sections of Gjerdingen's tree).

**Claim 2**

Gjerdingen anticipates the dependency models collectively employ one or more reliability indicators (**Gjerdingen**, col 17, lines 40-42).

**Claims 3, 7, 12, 21, 26**

Gjerdingen anticipates probabilistic dependency models are decision trees (Gjerdingen, col 17, lines 35-50).

**Claims 4, 8, 13**

Gjerdingen anticipates the items are texts (Gjerdingen, col 5, lines 20-27).

**Claim 5**

Gjerdingen anticipates a computer system component that applies a probabilistic dependency model to classify an item, wherein the probabilistic dependency model contains dependencies on one or more classical outputs from one or more classifiers and dependencies on one or more reliability indicators (Gjerdingen, Fig. 1; col 17, lines 35-50; EN: the composite tree or parent tree representing a family of child trees will by consequence contain dependencies related to outputs from various members of the family, depending on the branch of the composite that one is addressing).

**Claim 6**

Gjerdingen anticipates the computer system outputs a quantitative measure relating to confidence that the item belongs in a category (Gjerdingen, col 18, lines 4-9).

**Claim 9**

Gjerdingen anticipates a first computer system component that learns, from training examples, probabilistic dependency models for classifying items according to one or more reliability indicators together with classical outputs from one or more classifiers (Gjerdingen, col 17, lines 51-67; col 18, lines 1-3).

**Claim 10**

Gjerdingen anticipates a second computer system component that repeatedly invokes the first component to learn probabilistic dependency models employing various potentially effective reliability indicators and compares the performances of the resulting probabilistic dependency models to identify reliability indicators that are effective (**Gjerdingen**, col 18, lines 21-29).

Gjerdingen anticipates the second component automatically selects the potentially effective reliability indicators (**Gjerdingen**, col 18, lines 21-29).

**Claim 11**

Gjerdingen anticipates the first computer system component treats the classical outputs from classifiers and the reliability indicators in the same manner (**Gjerdingen**, col 18, lines 21-29).

**Claim 14**

Gjerdingen anticipates implementing a plurality of classifiers adapted to receive and classify at least one item, the plurality of classifiers each generating a score related to classification of the at least one item (**Gjerdingen**, col 17, lines 35-50; col 18, lines 4-9); and for each of one or more categories, facilitating classification, selection, and/or utilization of the at least one item with a probabilistic dependency model that employs one or more of the scores and, in addition, one or more reliability indicators (**Gjerdingen**, col 17, lines 51-67; col 18, lines 1-9).

**Claim 15**

Gjerdingen anticipates the instructions implement a different probabilistic dependency model for each of two or more categories (**Gjerdingen**, col 17, lines 35-50;

col 18, lines 4-9; EN: such is the purpose of a decision tree); the probabilistic dependency models are based on subsets of parameters selected from the group consisting of the scores and the reliability indicators (**Gjerdingen**, col 17, lines 35-50; col 18, lines 4-9); and the subsets of parameters vary among the probabilistic dependency models (**Gjerdingen**, col 17, lines 35-50; col 18, lines 4-9; EN: such is the purpose of a tree or classification algorithm).

**Claim 16**

Gjerdingen anticipates means for determining a model that classifies the items based on a probabilistic approach that combines information about the items including one or more classical outputs of classifiers and one or more attributes of the items other than classical outputs of classifiers (**Gjerdingen**, col 17, lines 35-50); and means for applying the model to classify the items (**Gjerdingen**, col 17, lines 35-50).

**Claim 17**

Gjerdingen anticipates first data fields containing data representing an attribute to test, wherein the attributes represented include both classical classifier outputs and reliability indicators (**Gjerdingen**, Figs. 1, 2; col 17, lines 35-50; EN: from the specification, attributes are synonymous with reliability indicators); second data fields corresponding to the first data fields and containing data representing values against which to compare the attributes (**Gjerdingen**, col 17, lines 51-61); third data fields containing data representing classifier outcomes (**Gjerdingen**, col 17, lines 51-61); fourth data fields facilitating determination of relationships among instances of the first, second, and third data fields, the relationships having a decision tree structure with the



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first and second data fields corresponding to decision nodes and the third data fields corresponding to leaf nodes (**Gjerdingen**, col 17, lines 51-61).

**Claim 18**

Gjerdingen anticipates the data represented by the first data fields comprises classical classifier outputs from a plurality of classifiers (**Gjerdingen**, col 17, lines 35-50).

**Claim 19**

Gjerdingen anticipates obtaining a set of training examples (**Gjerdingen**, col 17, lines 51-67; col 18, lines 1-3); applying a probabilistic approach that uses the training examples to develop a model that combines evidence to provide an output relating to whether an item belongs in a category (**Gjerdingen**, col 17, lines 51-67; col 18, lines 1-3); and storing the model in a computer-readable media for use as a classifier (**Gjerdingen**, Fig. 1, 2); wherein the evidence comprises one or more classical outputs of other classifiers and one or more attributes of the item other than classical outputs of classifiers (**Gjerdingen**, col 17, lines 35-50).

**Claim 20**

Gjerdingen anticipates obtaining potentially useful reliability indicators (**Gjerdingen**, col 17, lines 35-50); applying the method of claim 19 using various of the potentially useful reliability indicators as evidence (**Gjerdingen**, col 17, lines 35-50); and comparing the resulting classifiers to identify which of the potentially useful reliability indicators are, in fact, useful (**Gjerdingen**, col 17, lines 51-61).

**Claim 22**

Gjerdingen anticipates the evidence comprises classical outputs from two or more classifiers (**Gjerdingen**, col 17, lines 35-50; EN see comments at Claim 1 above).

**Claim 22**

Gjerdingen anticipates obtaining the items in computer readable format, employing a computer to classify the item using a classifier generated according to the method of claim 19(**Gjerdingen**, Fig. 1, 2; col 17, lines 35-50) .

The method of claim 23, wherein the items are texts (**Gjerdingen**, col 5, lines 20-27).

**Claim 25**

Gjerdingen anticipates the dependency models collectively contain dependencies based on one or more reliability indicators (**Gjerdingen**, col 17, lines 35-50).

**Claim 27**

Gjerdingen anticipates sequentially applying tests to the items to obtain test results (**Gjerdingen**, col 17, lines 35-50); and classifying the items based on the test results (**Gjerdingen**, col 17, lines 35-50; col 18, lines 1-3); wherein the sequence of tests applied varies among the items in that the outcome of one or more tests affects whether another test is applied, whereby the classifiers utilized vary depending on the items (**Gjerdingen**, col 17, lines 35-50).

**Claim 28**

Gjerdingen anticipates the tests involves a reliability indicator (**Gjerdingen**, col 17, lines 35-50).

**Claim 29**

Gjerdingen anticipates the classifiers are applied to the items selectively to avoid applications of classifiers that will not be utilized (**Gjerdingen**, col 17, lines 35-50; EN: this situation is not possible unless the classification is known in advance (a priori ?) and then only that classification is exercised).

### ***Conclusion***

8. The prior art of record and not relied upon is considered pertinent to applicant's disclosure.

- Agrawal et al, US Pub 2001/0037324
- Sheehan, US Patent 6,484,010
- Sheehan, US Patent 6,144,838
- Zhilyaev, US Patent 6,137,911

9. Claims 1-29 are rejected.

### ***Correspondence Information***

Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner, Joseph P. Hirl, whose telephone number is (703) 305-1668. The Examiner can be reached on Monday – Thursday from 6:00 a.m. to 4:30 p.m.

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If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Anil Khatri can be reached at (703) 305-0282.

Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,

Washington, D. C. 20231;

or faxed to:

(703) 746-7239 (for formal communications intended for entry);

or faxed to:

(703) 746-7290 (for informal or draft communications with notation of "Proposed" or "Draft" for the desk of the Examiner).

Hand-delivered responses should be brought to:

Receptionist, Crystal Park II

2121 Crystal Drive,

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Joseph P. Hirl



September 24, 2003



**ANIL KHATRI**  
**SUPERVISORY PATENT EXAMINER**